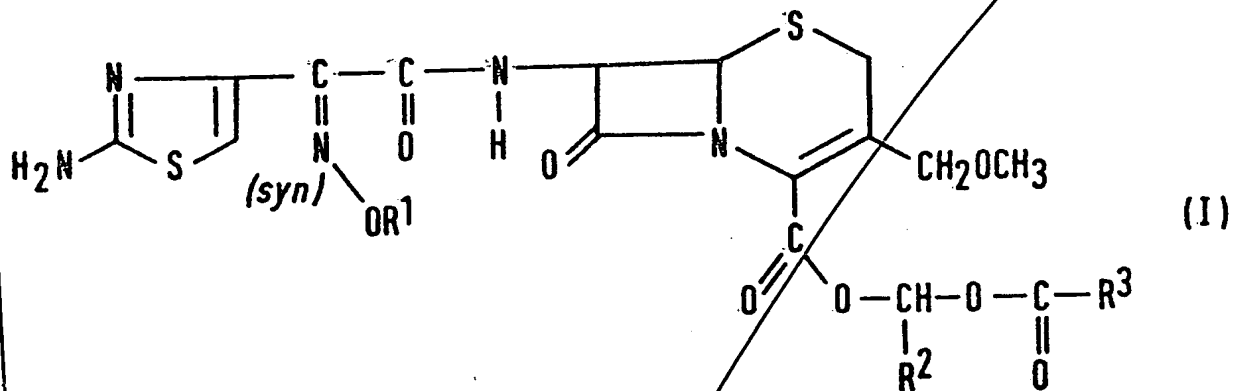


CLAIMS:

1. Compounds of formula (I):



wherein:

R¹ represents a lower alkyl group selected from methyl groups and ethyl groups;

R² represents a hydrogen atom or a methyl group;

and

R³ represents a group selected from C₁-C₅ alkyl and C₁-C₅ alkoxy groups;

and pharmaceutically acceptable acid addition salts thereof.

2. The compounds claimed in Claim 1, wherein R¹ represents a methyl group.

a
a
3. The compounds claimed in Claim 1, wherein R² represents a hydrogen atom and ~~R³ represents a C₁-C₅ alkyl group.~~

a
4. The compounds claimed in Claim 1, wherein R² represents a methyl group and ~~R³ represents a C₁-C₅ alkoxy group.~~

5. The compounds claimed in Claim 1, selected from the group consisting of:

Pivaloyloxymethyl 7-[2-(2-aminothiazol-4-yl)-2-(syn)-methoxyiminoacetamido]-3-methoxymethyl-3-cephem-4-carboxylate,

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Pivaloyloxymethyl 7-[2-(2-aminothiazol-4-yl)-2-(syn)-ethoxyiminoacetamido]-3-methoxymethyl-3-cephem-4-carboxylate,

1-Ethoxycarbonyloxyethyl 7-[2-(2-aminothiazol-4-yl)-2-(syn)-methoxyiminoacetamido]-3-methoxymethyl-3-cephem-4-carboxylate and

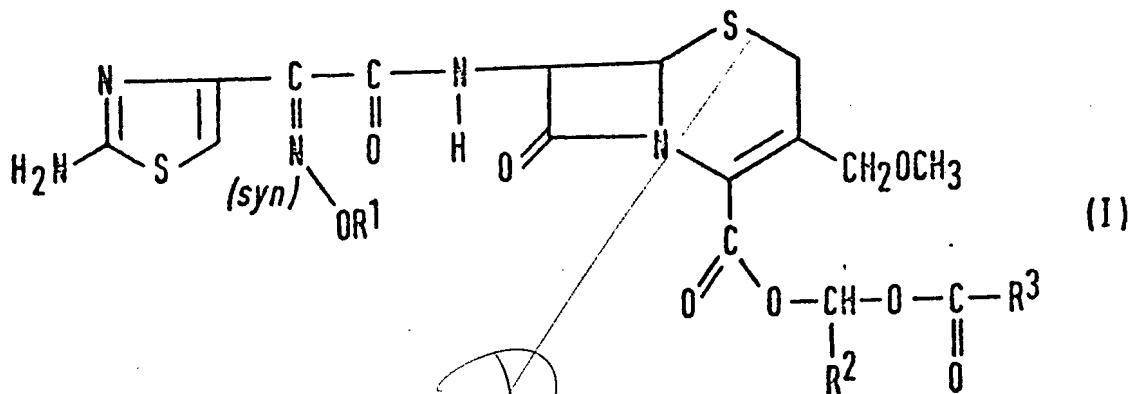
1-Ethoxycarbonyloxyethyl 7-[2-(2-aminothiazol-4-yl)-2-(syn)-ethoxyiminoacetamido]-3-methoxymethyl-3-cephem-4-carboxylate,

and pharmaceutically acceptable acid addition salts thereof.

6. The compounds claimed in Claim 1, in the form of the hydrochlorides.

7. The compounds claimed in Claim 5, in the form of the hydrochlorides.

8. A process for preparing compounds of formula (I):



wherein:

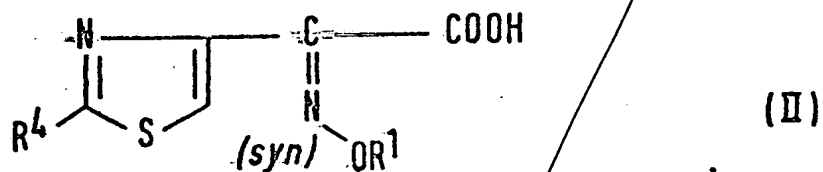
R^1 represents a lower alkyl group selected from methyl groups and ethyl groups;

R^2 represents a hydrogen atom or a methyl group;

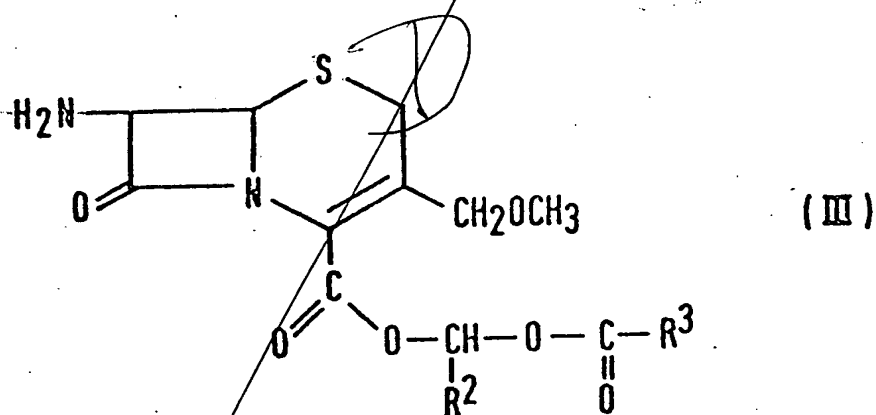
and

R^3 represents a group selected from ~~C_1-C_5~~ alkyl and C_1-C_5 alkoxy groups,

which process comprises reacting a compound of formula (II):

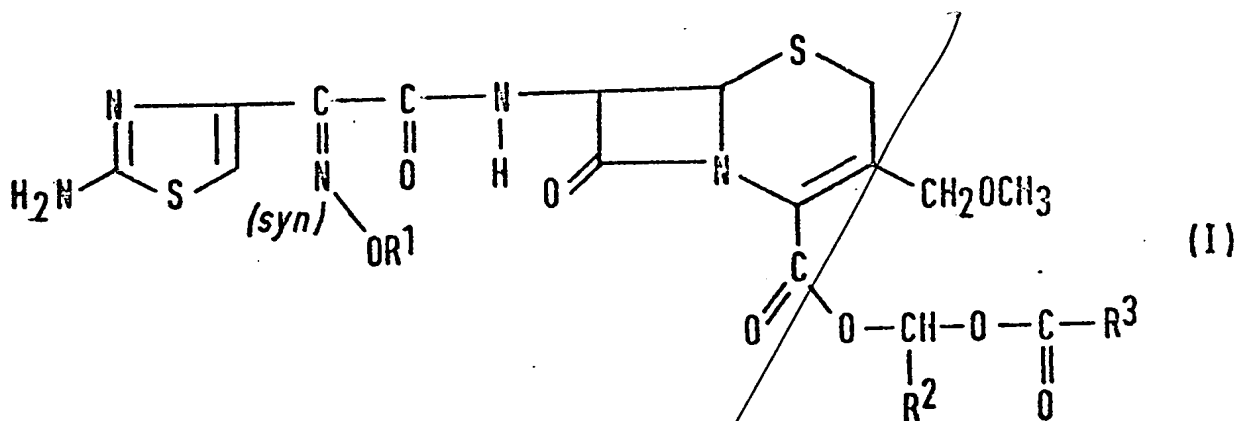


(wherein R^4 represents an amino group or a protected amino group and R^1 is as defined above) or a reactive derivative thereof with a compound of formula (III):



(wherein R^2 and R^3 are as defined above) and, where R^4 represents a protected amino group, deprotecting the group.

9. A process for preparing a compound of formula (I):



wherein:

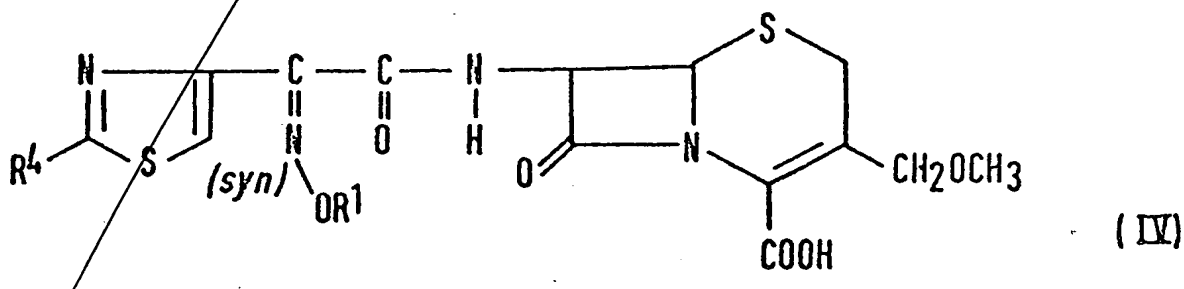
R^1 represents a lower alkyl group selected from methyl groups and ethyl groups;

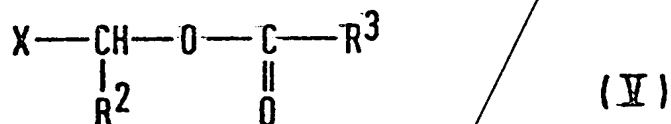
R^2 represents a hydrogen atom or a methyl group;

and

R^3 represents a group selected from ~~C_1-C_5~~ alkyl and C_1-C_5 alkoxy groups,

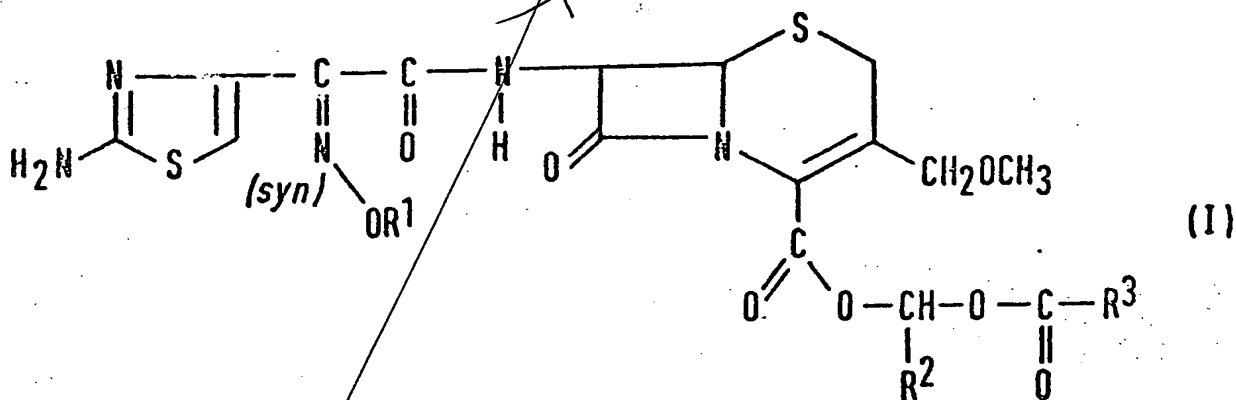
which process comprises reacting a compound of formula (IV):





(wherein X represents a halogen atom and R^2 and R^3 are as defined above) and, where R^4 represents a protected amino group, deprotecting the group.

10. A process for preparing a compound of formula (I):



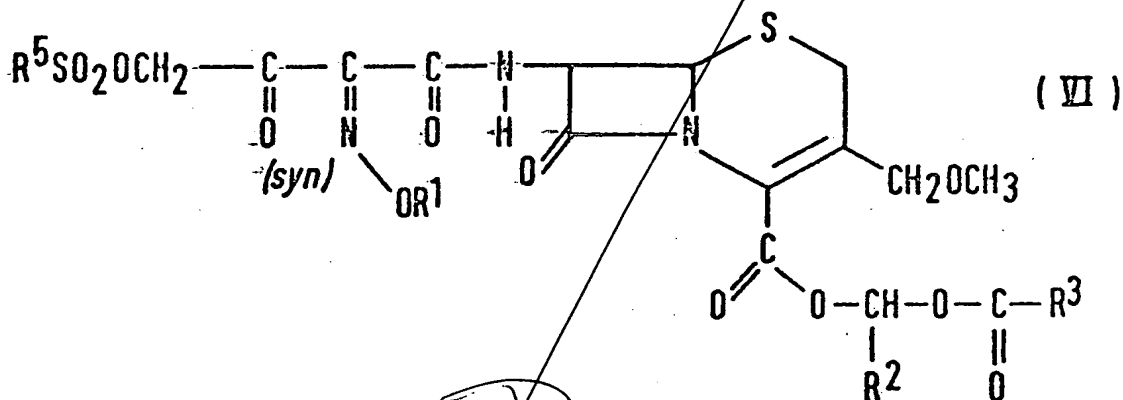
wherein:

R^1 represents a lower alkyl group selected from methyl groups and ethyl groups;

R^2 represents a hydrogen atom or a methyl group; and

a
a
R³ represents a group selected from ~~C₁-C₅~~
alkyl and C₁-C₅ alkoxy groups,

which process comprises reacting a compound of formula
(VI):

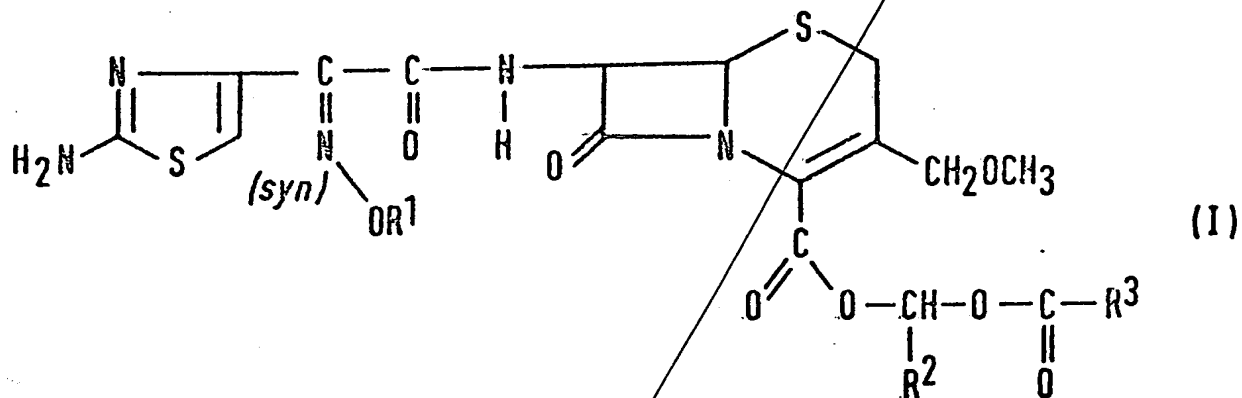


(wherein R⁵ represents a C₁-C₆ alkyl group or an aryl group and R¹, R² and R³ are as defined above) with thiourea.

11. A process as claimed in Claim 10, wherein R⁵ represents a C₁-C₆ alkyl group, a phenyl group or a phenyl group having at least one substituent selected from the group consisting of lower alkyl groups, lower alkoxy groups and halogen atoms.

12. A process as claimed in Claim 10, wherein R⁵ represents a methyl group, an ethyl group, a phenyl group or a p-methylphenyl group.

13. A process for preparing a compound of formula (I):



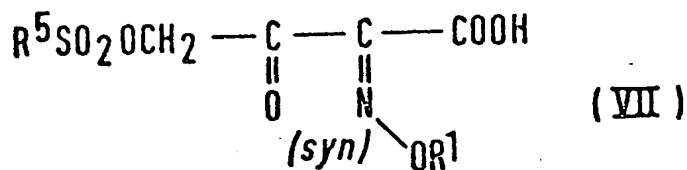
wherein:

R^1 represents a lower alkyl group selected from methyl groups and ethyl groups;

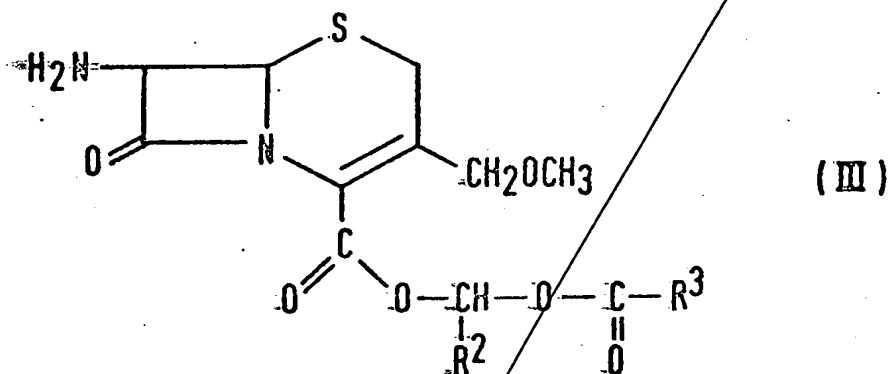
R^2 represents a hydrogen atom or a methyl group; and

R^3 represents a group selected from ~~C₁-C₅~~
~~alkyl and C₁-C₅ alkoxy groups,~~

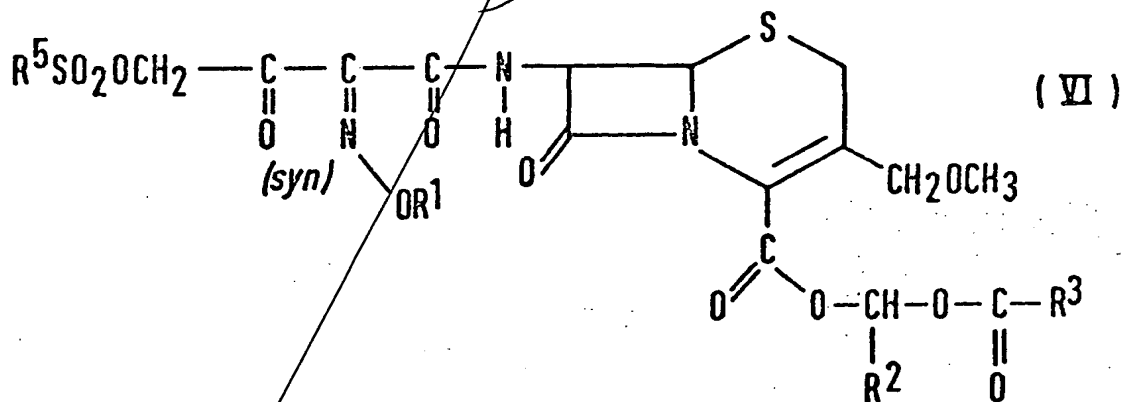
which process comprises reacting a compound of formula (VII):



(wherein R^5 represents a C_1 - C_6 alkyl group or an aryl group and R^1 is as defined above) or a reactive derivative thereof with a compound of formula (III):



(wherein R^2 and R^3 are as defined above) to give a compound of formula (VI):



(wherein R^1 , R^2 , R^3 and R^5 are as defined above) and reacting said compound of formula (VI) with thiourea.

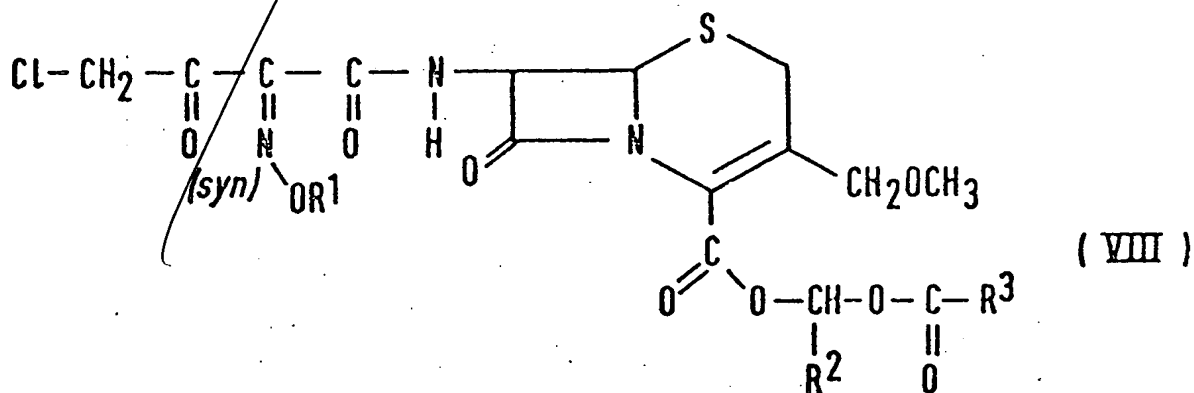
14. A process for preparing a compound of formula (I):

R¹ represents a lower alkyl group selected from methyl groups and ethyl groups;

R^2 represents a hydrogen atom or a methyl group; and

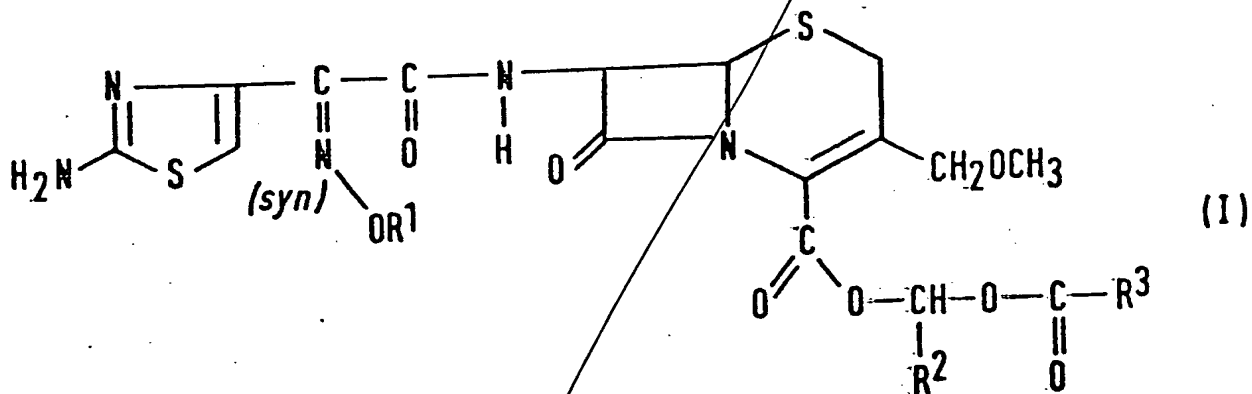
R^3 represents a group selected from C_1 - C_5 alkyl and C_1 - C_5 alkoxy groups,

which process comprises reacting a compound of formula (VIII):



(wherein R^1 , R^2 and R^3 are as defined above) with thiourea.

15. A process for preparing a compound of formula (I):



wherein:

R^1 represents a lower alkyl group selected from methyl groups and ethyl groups;

R^2 represents a hydrogen atom or a methyl group; and

R^3 represents a group selected from C_1-C_5 alkyl and C_1-C_5 alkoxy groups,

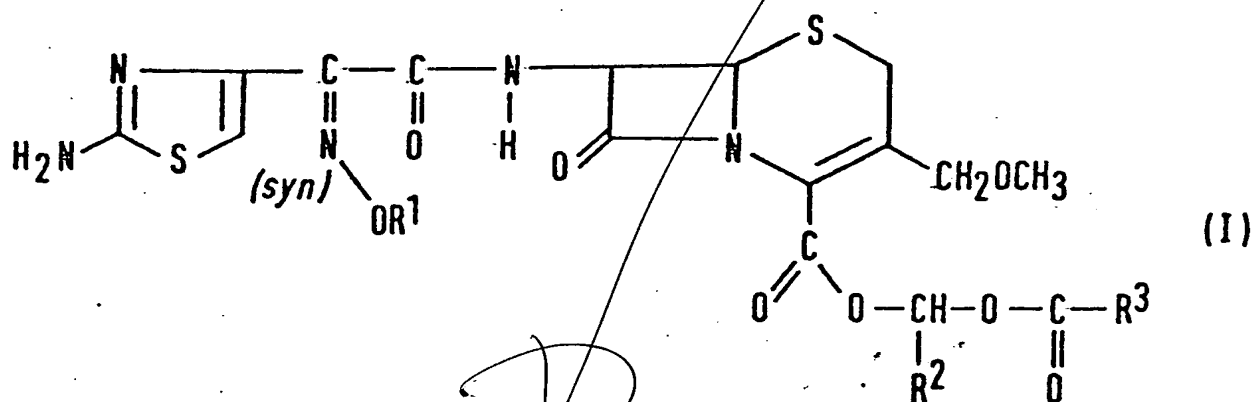
which process comprises nitrosating a compound of formula (IX):

ClCC(=O)C(=N(O)c1c[nH]c2c1c[nH]c2SCCOC)c3c[nH]c4c3c(=O)oc(=O)c(R2)oc(=O)c(R3)c4 (X)
$$\text{Cl}-\text{CH}_2-\text{C}(=\text{O})-\text{C}(=\text{O})-\text{C}(=\text{O})-\text{NH}-\text{[Bicyclic System]}-\text{CH}_2\text{OCH}_3$$

(VIII)

(wherein R^1 , R^2 and R^3 are as defined above) and reacting said compound of formula (VIII) with thiourea.

16. A process for preparing a compound of formula (I):



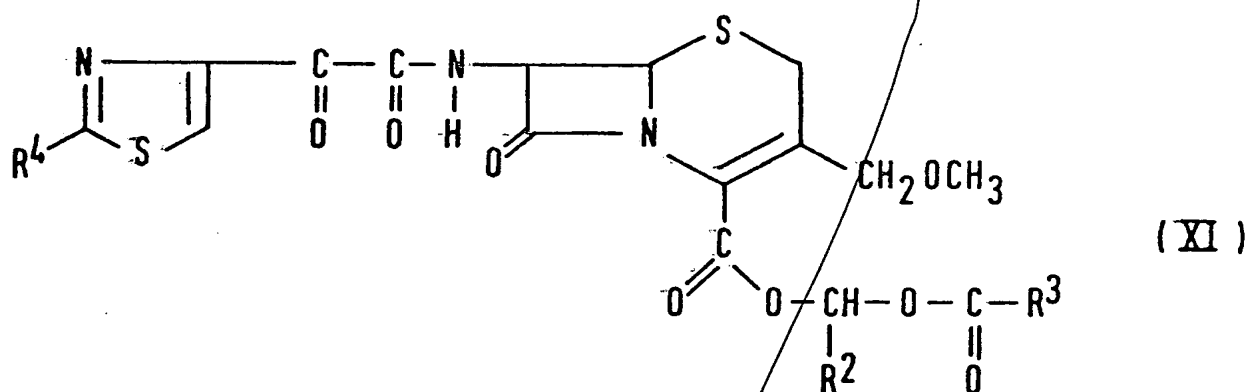
wherein:

R^1 represents a lower alkyl group selected from methyl groups and ethyl groups;

R^2 represents a hydrogen atom or a methyl group; and

R^3 represents a group selected from C_1-C_5 alkyl and C_1-C_5 alkoxy groups,

which process comprises reacting a compound of formula (XII):

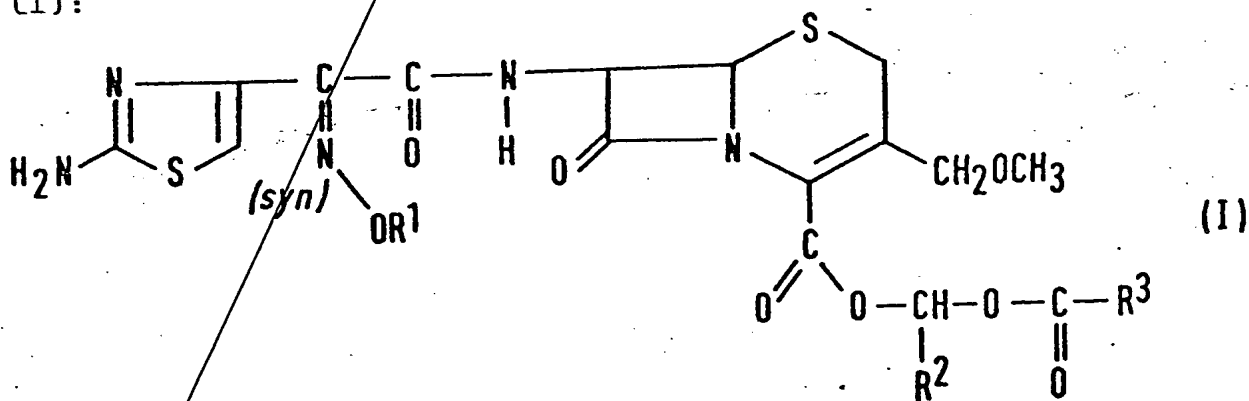


(wherein R^4 represents an amino group or a protected amino group) with a compound of formula (XII):



(wherein R^1 is as defined above) and, where R^4 represents a protected amino group, deprotecting the group.

17. A process for preparing a compound of formula (I):



wherein:

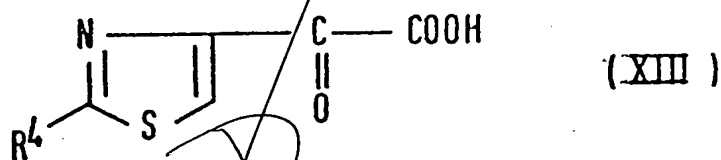
R^1 represents a lower alkyl group selected

from methyl groups and ethyl groups;

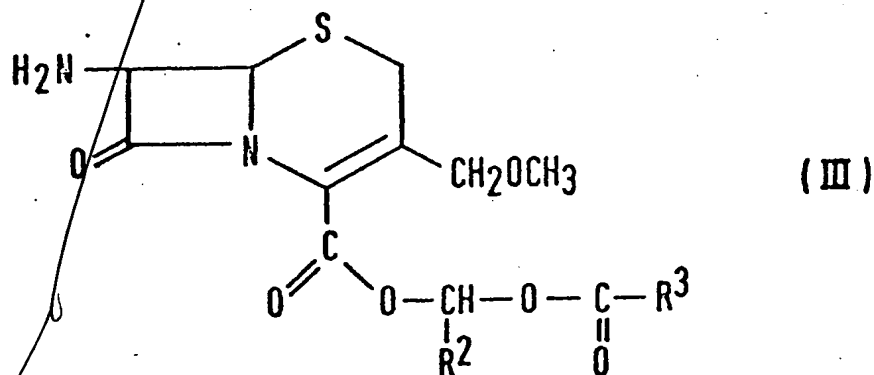
R^2 represents a hydrogen atom or a methyl group; and

R^3 represents a group selected from C_1-C_5 alkyl and C_1-C_5 alkoxy groups,

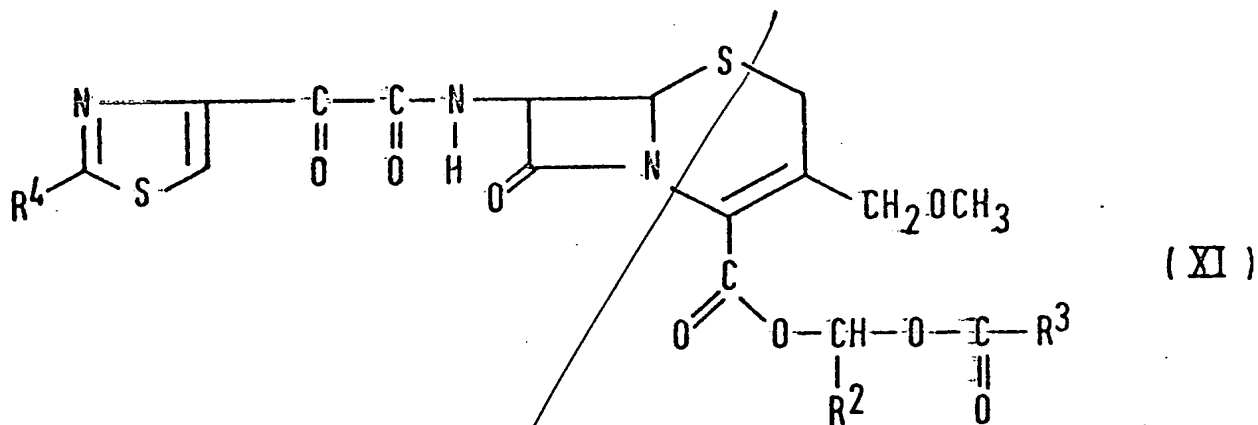
which process comprises reacting a compound of formula (XIII):



(wherein R⁴ represents an amino group or a protected amino group) or a reactive derivative thereof with a compound of formula (III):



(wherein R^2 and R^3 are as defined above) to give a compound of formula (XI):

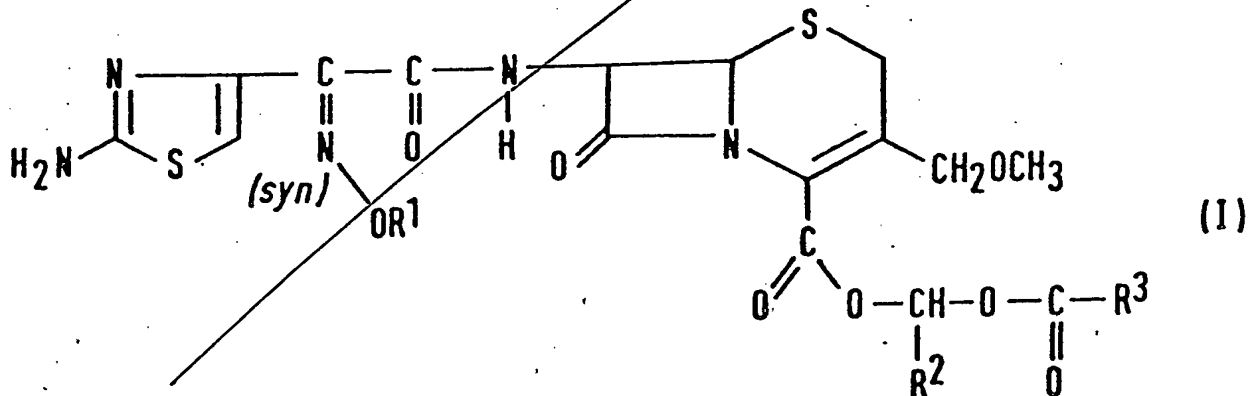


(wherein R^2 , R^3 and R^4 are as defined above), reacting said compound of formula (XI) with a compound of formula (XII):



(wherein R^1 is as defined above) and, where R^4 represents a protected amino group, deprotecting the group.

18. ~~In a pharmaceutical composition for oral administration comprising an effective amount of an antibiotic in admixture with a pharmaceutically acceptable carrier or diluent, the improvement which comprises employing as said antibiotic a compound of formula (I):~~



wherein:

R^1 represents a lower alkyl group selected from methyl groups and ethyl groups;

R^2 represents a hydrogen atom or a methyl group; and

a
a R^3 represents a group selected from ~~C_4-C_5~~
alkyl and C_1-C_5 alkoxy groups,

or a pharmaceutically acceptable acid addition salt thereof.

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at

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C₁